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Comparison of American and Norwegian Nursery School Children of Independence Behavior and Training.  
Summary Report.

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This document is a summary report of a study which compared independence training of upper middle class Norwegian and American Nursery school children (see PS 001 323). Six tasks of increasing difficulty were presented to the children, and their responding behavior was rated on a behavior rating list. After obtaining a measure of validity, the data were analyzed. All but one of the hypotheses were supported. (JS)

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**Title:** COMPARISON OF AMERICAN AND NORWEGIAN  
NURSERY SCHOOL CHILDREN ON INDEPENDENCE  
BEHAVIOR AND TRAINING

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**Institution:** Committee on Human Development  
The University of Chicago

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Summary of Report

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## BACKGROUND

The degree of independence displayed by children is a crucial factor in the teacher-pupil relationship and in the teacher's management of the training situation.

National differences in children's independence and independence-training are important factors in actual and ideal patterns of education.

## OBJECTIVES

There are three main objectives in this study. They are:

1. To compare Norwegian and American pre-school children with regard to dependency which they exhibit in task-situations with a stranger and with their mothers.
2. To compare cultural differences in mothers' expectations of independence and their report of independence-training for their children.
3. To examine relations between maternal independence-training and expectations and children's independence behavior in the two national groups.

### Hypotheses:

1. It was hypothesized that independence-training would be practiced earlier by mothers of Norwegian children; that these subjects would be expected to do things by themselves at an earlier age than American children, and that they would be given more opportunity to practice self-reliance and decision-making.
2. In a task-situation, the Norwegian children, being trained earlier to independence, would be less help-seeking.

3. Parental independence-training or expectations and children's independent behavior should be positively correlated within each national group.

4. It was hypothesized that sex-differences also would be reflected in the general cultural expectations of the children's readiness for and capability of certain tasks at certain ages--the girls being expected to be capable earlier than boys; that the sex-difference would also be expressed in the mothers' child-rearing practices.

### PROCEDURE

Sample. Two samples of subjects, American and Norwegian nursery-school children, were carefully selected (by their nursery school teachers, after the given criteria) to get samples as closely matched as possible, with comparable economic and environmental conditions.

The American sample was, therefore, not from a large city, but from a smaller city, New Haven, Connecticut. The children lived in suburban areas, under conditions similar to those of the suburban nursery school children in Bergen and Oslo (population 150,000 and 500,000). To be included in the samples, the subjects had to meet the following criteria:

1. Sex: Half boys, half girls, in each group
2. Age: 4;6 to 5;0 at time of testing
3. Socioeconomic status: "Upper middle class"--defined by father's education, university level, and profession
4. Attending nursery school

5. Mother not working outside of home
6. IQ: Between 110-135 (as measured by the Harris "Draw-a-man" test and the Ammons and Ammons "Quick Test").
7. Sibling group consisting of 2-4 children

It was not possible to get the samples equally divided according to sex. The Norwegian sample contained 8 girls, 9 boys (N = 17); the American sample had 7 girls, 10 boys (N = 17).

Measures. Six measures were used in this study. They are:

A. Task situations

1. Stringing of small beads on shoelace  
(involving child, mother, and investigator)
2. Easy puzzle--11 pieces (involving child, mother, and investigator)
3. Making tower of 15 one-inch blocks (involving child and investigator)
4. Difficult puzzle--22 pieces (involving child and investigator)

These tasks were designed so that difficulty increased from task one to task four.

B. Questionnaires

1. Questionnaire I--to assess culturally expected standards for independence training
2. Questionnaire II--to assess the mother's child-rearing practices with this particular child in mind.

The two questionnaires were set up with the following assumptions:

1. That Questionnaire I would assess the general "cultural" expectations of a child.
2. That Questionnaire II would express the mother's actual training of the child in different areas, in regard to independence training of her own child.
3. That there would be a correspondence between the two questionnaires: a certain consistency of cultural expectations and the mother's training of the child.
4. That the given responses would reflect both cultural and sex differences, both in expectations and actual training and child-rearing.

IQ Tests. The children in the American sample had been tested previous to this present experiment and had been given the Gesell Developmental Test on which all subjects got a DQ (Developmental Quotient) of "High Average, or better." Norwegian nursery school children are (by law) protected from being exposed to intelligence tests. The investigator had to rely on the teachers' judgment of the subjects' IQs. Two measurements were chosen for control of IQ: the QT, or Quick Test, a picture vocabulary test (Ammons and Ammons, 1962), and the Draw-a-man test (Harris, 1963).

Administration of measures. Each child was visited once and was seen in his own home. The visit was prearranged with the mother who, in most cases, was present during the first two task-situations.



All four task-situations were recorded by examiner and also recorded on tape.

The two IQ measures were administered after the four task-situations were finished.

The mother was then seen, and given the two Questionnaires I and II, in that order.

Data. Methods of analysis. The subjects' behavior and all verbal responses were later rated on a Behavior Rating List, each item rated per task, and per minute of observation. This was done independently by the investigator and a co-rater. A correlation was performed, to get a measure of validity on the rating.

The investigator's hand-recording, also rated in the Behavior Rating List categories, was next correlated with the investigator's rating of the tape-recording. A measure of validity on the investigator's recording was thus obtained.

1. The behavior items were grouped in categories-- Task Dependency, Non-Task Dependency, and Egocentric Speech. Analysis of variance was performed, on means of raw scores, with Tasks, Nationality, and Sex as variables.

2. The behavior items were later re-grouped, and analysis of variance was performed.

3. Analysis of variance was also performed on ratio-scores per minute, per category, over all four tasks.

4. The Expected Mean Age scores from Questionnaire I were compared by Nationality and by Sex, by T-tests of two-sample means.

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5. Independence score and Dependency score from Questionnaire II were also compared, by Nationality and by Sex, by T-tests of two-sample means.

6. Correlation program with 68 variables, including data from the experimental situations and the mothers' questionnaires I and II was run.

7. Correlation program with 18 variables--the 12 verbal items from the experimental task-situation (in ratio-scores) were correlated with Mean Age score (Q I) and Independence and Dependency score (Q II).

### RESULTS AND CONCLUSIONS

Hypothesis I. Earlier independence-training practiced by Norwegian mothers (Q II) was confirmed by T-tests of two sample means of Independence scores ( $p < .001$ ) and Dependency scores ( $p < .05$ ).

Hypothesis II. Norwegian children being less help-seeking than American children in a task-situation, was confirmed by analysis of variance. Over all tasks, Norwegian children demonstrated less Task Dependency.

Hypothesis III. Differences in cultural expectations, as assessed by Questionnaire I, were confirmed by T-tests of two sample means. T-test on overall means gave a significant result with  $p < .005$ .

On nine of the 26 items the results by T-tests were significant. Eight of these results were in the predicted direction, with the Expected Mean Age score lower for Norwegian children.



There was consistency in the data and the findings of the two questionnaires, shown in inter-correlations of Mean Age Scores, Questionnaire I, with Independence Score and Dependency Score from Questionnaire II, both of which gave significant results for All Ss.

Q I Mean Age Score x Questionnaire II, Independence, had significant results for each Nationality and Sex sub-group, with probability levels ranging from .01 to .005.

Hypothesis IV. Sex-differences, reflected both in culturally expected standards (Q I) and in the mother's actual child-rearing practices, were found.

In the Norwegian sample the hypothesized sex differences were in the predicted direction (girls being trained earlier than boys), but not in the American sample.

Inter-correlation programs I and II showed relationships between the Behavior Rating Items, with somewhat different characteristics for the Norwegian and the American sample. In tasks where both mother and examiner were present, the Questionnaire scores correlated with Task Dependency showed in general a positive relationship in regard to one person, a negative to the other, between these variables.

Implications. Inconsistency in data of the sub-samples is puzzling and brings up the question of early pressure versus early training. Regarding independence training, the question arises as to why American boys are expected to master certain tasks or situations earlier than American girls (11 out of 26 cases) when most theories would predict the opposite.

In terms of teaching, there are implications in the present study to support the theoretical views on control and nurturance in regard to independence behavior.

Children who are trained to independence earlier may be more verbal and want a more active exchange of ideas and thoughts with adults, but they may require less support in their play or work. They can be given certain rules or limits and then use their own initiative and ingenuity to find ways and means to solve their own problems.

It should be remembered that the samples for this study were chosen from a special segment of the population.

This study has perhaps generated more questions than it has answered. Further investigation of different socialization processes in different segments in the societies involved will help to clarify the problems of the different expectations in training to independence and will, hopefully, give a fuller and more correct picture of this important part of the young child's socialization.

#### BIBLIOGRAPHY

There are 40 references listed in the final report.

#### PUBLICATIONS

No publications have, so far, resulted from this project.